ecology and environment, inc.
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International Specialists in the Environment

M E M O R A N D U M

DATE: April 22, 1986
TO: Erin Moran, RPM, USEPA, Region V
FROM: Pat Petrella, Ecology and Environment, Inc., FIT
SUBJECT: Ohio/R05-8512-06
Elyria/Chemical Recovery Systems
OHD057001810

INTRODUCTION

The purpose of this sampling activity was to determine if the Chemical Recovery System, Inc. (CRS) site is presently contributing to contamination of the Black River and to verify the sampling data obtained by the CRS contractor, CLOW, Inc.

A Technical Directive Document (TDD) for requesting FIT services was issued December 17, 1985 for the following scope of work:

- Collect water samples from the Black River upstream and downstream of the CRS site as specified by the RPM.
- Collect a water sample from a designated site outfall to the River, if possible, as specified by the RPM.
- Submit water samples to CLP for analysis.
- Submit a technical memorandum of field activities.

SITE BACKGROUND AND DESCRIPTION

The CRS site is approximately 4 acres and is located at 124 Locust Street, Elyria, Ohio in Lorain County. The downtown area of Elyria is approximately 2.5 blocks from the site. To the North and

East, the site is bordered by Harshaw Chemical Company. It is fenced on the North, South and East sides while bordered by the east branch of the Black River and a 25' high, densely vegatated steep slope on the west. Presently, 1 building and foundations for 2 others structures are onsite. Refer to Section 2 for a location map and site sketch.

The site property is presently owned by Mr. and Mrs. Russell Obitts. Mr. Obitts operated a Chemical Recovery Facility onsite before leasing the property to CRS in 1974. CRS accepted drummed and bulk chemical wastes for reclamination using a distillation process. As a result of citizen complaints and site investigations by the local Health Department and Fire Inspector, severe contamination onsite and in the River was identified. Fire code violations were also found. The Fire Marshall declared the site to be a fire hazard and ordered the violations corrected. Follow-up inspections by the U.S. EPA revealed approximately 4000 55-gallon drums and 53,500 gallon of bulk chemical stored improperly onsite. Sample analyses of spilled materials indicated the presence of various hazardous substances including PCB, trichloroethene, metlyl elthyl Ketone (MEK), toluene and xylene.

Because the site posed a substantial threat to the local population and the environment, U.S. EPA initiated legal action. On October 7, 1980 a civil action was brought on behalf of the U.S. EPA in the U.S. District Court, Northern District of Ohio, against CRS to abate an imminent and substantial endangerment to public health and the environment.

The law suit also sought restitution of money spent for investigation of the site. Chemical Recovery responded by removing the drums, tanks, and process equipment from the site and transporting hazardous waste to U.S. EPA approved disposal sites. In 1981, U.S.

EPA approved disposal sites. In 1981, U.S. EPA requested FIT (Ecology and Environment, Inc.) to perform a hydrogeologic study at the site. Sample analyses revealed a release of contaminants to groundwater and extensive soil and subsurface contamination. As the result of this study and information obtained from other site visits by the U.S. EPA a consent order was issued July 12, 1983. Refer to Section 5 for a copy of this document.

In addition to the remedial work, the consent order required CRS to sample the Black River periodically to monitor the site's impact on the river. The Company contracted CLOW, Inc. to do this surveillance work. To verify the quality of the sampling performed in November, 1985 by CLOW, Inc. and assess river water quality, U.S. EPA requested FIT to sample the River.

FIELD ACTIVITIES

PRE-SAMPLING ACTIVITIES

Upon arrival on February 5, 1986, the entrance to the site was locked. After determining that the appropriate access route to the river for sampling was from onsite, FIT contacted Mrs. Obitts to gain access. After clearing the site, FIT proceeded to locate the sampling points along the river. These locations are shown on Figure 2 in Section 2. Mrs. Obitts left the site requesting FIT lock the gate when sampling was complete

SAMPLING ACTIVITIES

The samples S1, S2, and S3 were collected from three distinct sampling points along the river upstream and downstream of CRS and at an outfall discharge from CRS (See Figure 2). All sample locations were on the east side of the east branch of the Black River. Sample

S1 is the downstream sample, S2 is the outfall sample, and S3, the upstream sample. Sample S1 was collected approximately 12 feet upstream of the site's southern fence line because there was no place to stand along the river's edge, further downstream, to collect the sample. Sample S2, the outfall sample, was collected downstream of a point suspected of being the outfall location sampled by CLOW, Inc. in November, 1985. This alternate location was chosen since the outfall pipe could not be found. This location was chosen based on the following information:

- Approximately 20' upstream of the sampling point was a cove recessed into the river bank that indicated where an outfall may have been active at one time. There was no flow from this location into the river.

- Broken drain tile was noted in the cove area. A report by Ecology and Environment, Inc. (E&E) dated April 26, 1982 indicates that the outfall in question was the drain tile.

- The actual distance from the north site boundary to the center of the cove was approximately that distance measured by E&E during the hydrogeologic study.

A duplicate sample was collected at location S2. A blank of distilled water was also prepared. None of the samples were filtered. The river appeared to exhibit higher flow than usual because of melting snow and rain.

Upon leaving the site at approximately 5:30 p.m., FIT locked the gate. The following day, FIT met with Mr. & Mrs. Obitts and provided a receipt for samples.

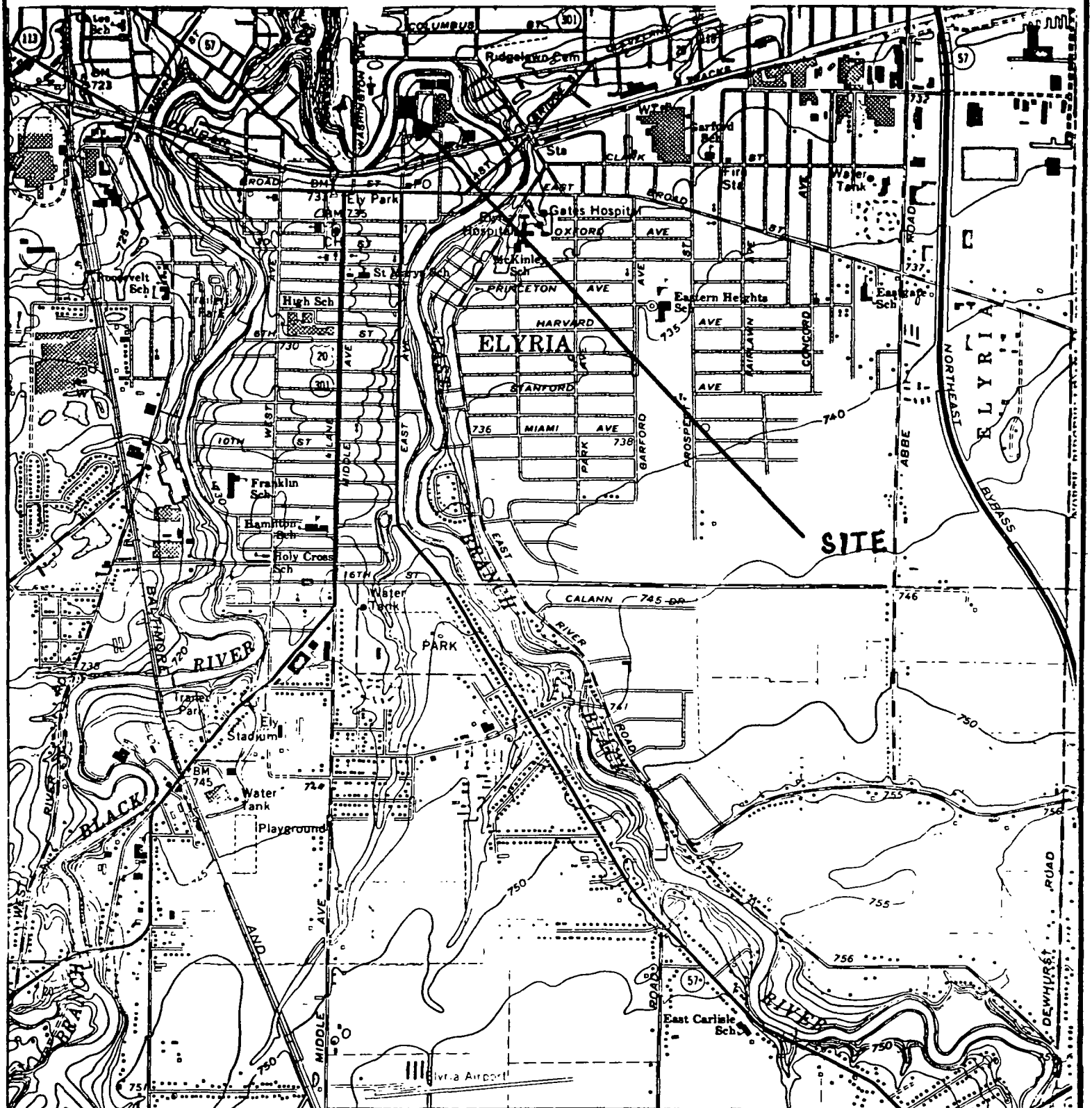
SAMPLE SHIPMENT

Samples were packaged and shipped on February 5, 1986 according to established U.S. EPA protocol to the following laboratories:

Chemtech Consulting Group, LTD. (Inorganics)
360 West 11th Street
New York, New York 10014
(212) 255-2100

Hazelton Laboratories (organics)
3301 Kinsman Boulevard
Madison, Wisconsin 53704
(608) 241-4471

92Z:6F



ecology and environment, inc.
111 WEST JACKSON BOULEVARD
CHICAGO, IL 60604

SCALE: 1 : 24000	**SITE LOCATION MAP**	DRAWN BY
DATE: APRIL 17, 1986	**ELYRIA, OHIO**	REVISED

CHEMICAL · RECOVERY SYSTEMS SITE

GRAFTON, OHIO QUAD - 7.5MIN

DRAWING NUMBER
1

SURFACE WATER SAMPLE S3

15'

fence

Harshaw Chemical Company

concrete pit

SURFACE WATER SAMPLE S2

20'

Suspected outfall location

JOHN ST.

Outfall pipe

Chemical Recovery Systems, Inc.

metal drain

12'

building

SURFACE WATER SAMPLE S1

Samples collected approximately 4 feet from river's edge

BLACK RIVER-WEST BRANCH

LOCUST ST.

CENTER ST.

PINE ST.

BLACK RIVER-EAST BRANCH

N

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111 WEST JACKSON BOULEVARD
CHICAGO, IL 60604

SURFACE WATER SAMPLE LOCATIONS ALONG the BLACK RIVER adjacent to CHEMICAL RECOVERY SYSTEMS SITE in ELYRIA, OHIO

DR. BY.	CK BY.	SITE MAP
SCALE NONE	DATE APRIL 25,1986	REV PPP
PROJECT NO. R05 – 8512 – 06	SHEET 2 OF 2 SHEETS	

FIELD PHOTOGRAPHY LOG SHEET

PAGE 1

DATE 2-5-86

TIME 4:20 A.M. (P.M.)

DIRECTION: N NNE NE ENE
E ESE SE SSE
(S) SSW SW WSW
W WNW NW NNW

WEATHER Cool, Wet, Drizzle, Overcast.

SITE Chem. Recovery System

TDD# R05-8512-06

PHOTOGRAPHED BY:
Dave Vaughn

SAMPLE ID# (if applicable)
SW2 Near Outfall

DESCRIPTION: Far Away shot of sample location on the River.

DATE 2-5-86

TIME 4:20 A.M. (P.M.)

DIRECTION: N NNE NE ENE
E ESE SE SSE
(S) SSW SW WSW
W WNW NW NNW

WEATHER Cool, Wet, Drizzle, Overcast

SITE Chem. Recovery Syst.

TDD# R05-8512-06

PHOTOGRAPHED BY:
Dave Vaughn

SAMPLE ID# (if applicable)
SW2 Near Outfall

DESCRIPTION: Close up shot of sample location and ID card.

D PHOTOGRAPHY LOG SHEET PAGE 2.

E 2-5-86

E 3:30 A.M. (P.M.)

ECTION: N NNE NE ENE
E ESE SE SSE
(S) SSW SW WSW
W WNW NW NNW

ATHER Cool, wet, Drizzle, Overcast.

TE Chem. Recovery Syst.

DD# R05-8517-06

HOTOGRAPHED BY:
Dave Vaughn

AMPLE ID# (if applicable)
SW-1 (Downstream)

DESCRIPTION: Looking downstream on Buck Fork, East Branch at sample location & surrounding area.

DATE 2-5-86

TIME 3:30 A.M. (P.M.)

DIRECTION: N NNE NE ENE
E ESE SE SSE
(S) SSW SW WSW
W WNW NW NNW

WEATHER Cool, wet, Drizzle, Overcast

SITE Chem. Recov. Syst.

TDD# R05-8517-06

PHOTOGRAPHED BY:
Dave Vaughn

SAMPLE ID# (if applicable)
SW-1 (Downstream)

DESCRIPTION: Looking downstream at location of sample collection, a close up view.

FIELD PHOTOGRAPHY LOG SHEET

PAGE 3

DATE 2-5-86

TIME 4:45 A.M. (P.M.)

DIRECTION: N NNE NE ENE
E (ESE) SE SSE
S SSW SW WSW
W WNW NW NNW

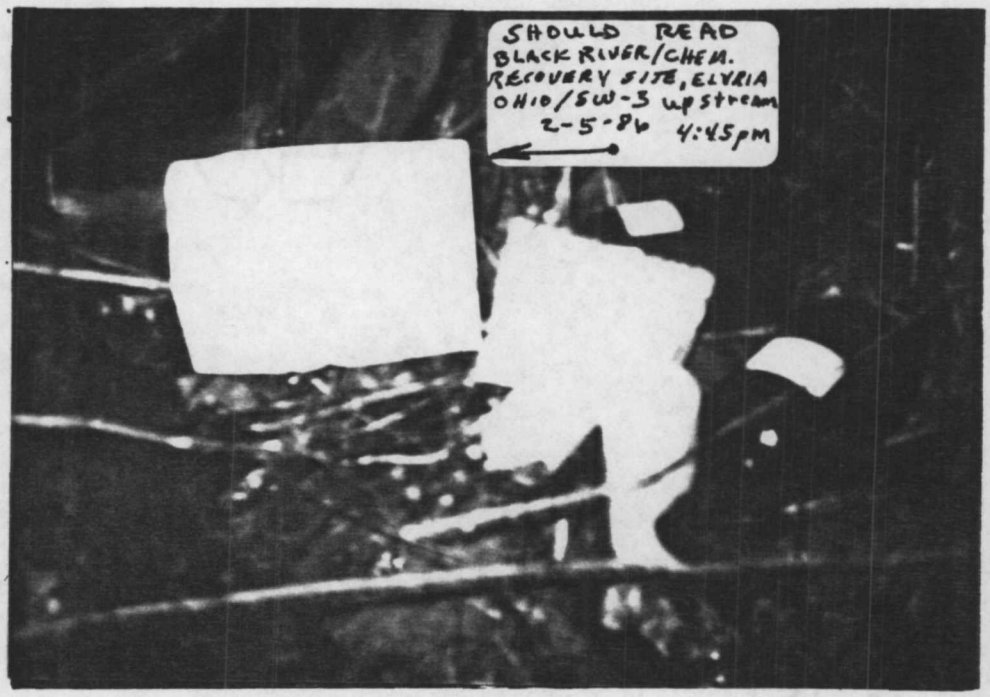
WEATHER Cool, Wet, Drizzle, Overcast.

SITE Chem. Recovery Syst.

TDD# R05-8512-06

PHOTOGRAPHED BY: Dave Vaughn.

SAMPLE ID# (if applicable) SW-3 (upstream)



DESCRIPTION: Sample close shot next to River where sample was collected. Compensation for poor lighting caused wash out of FD CARD.

DATE 2-5-86

TIME 4:45 A.M. (P.M.)

DIRECTION: N NNE NE ENE
E (ESE) SE SSE
S SSW SW WSW
W WNW NW NNW

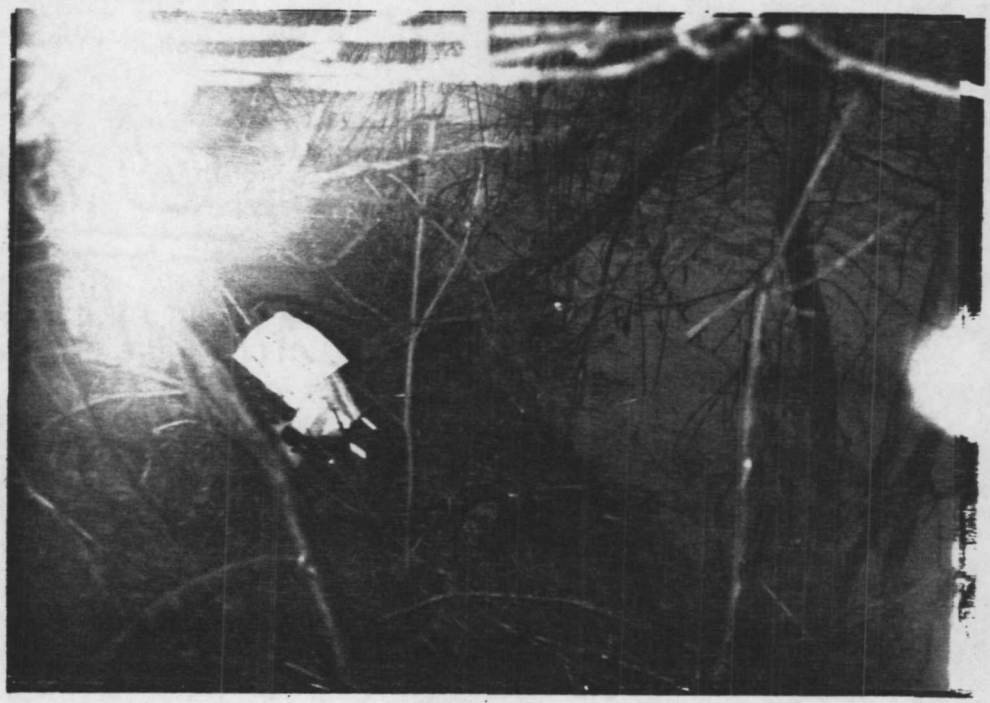
WEATHER Cool, Wet, Drizzle, Overcast

SITE Chem. Recovery Syst.

TDD# R05-8512-06

PHOTOGRAPHED BY: Dave Vaughn

SAMPLE ID# (if applicable) SW-3 (upstream)



DESCRIPTION: Far shot of sample location looking downstream.

FIELD PHOTOGRAPHY LOG SHEET

DATE 2-5-86

TIME 4:30 A.M. (P.M.)

DIRECTION: N NNE NE ENE
E ESE SE SSE
S SSW SW WSW
W WNW (NW) NNW

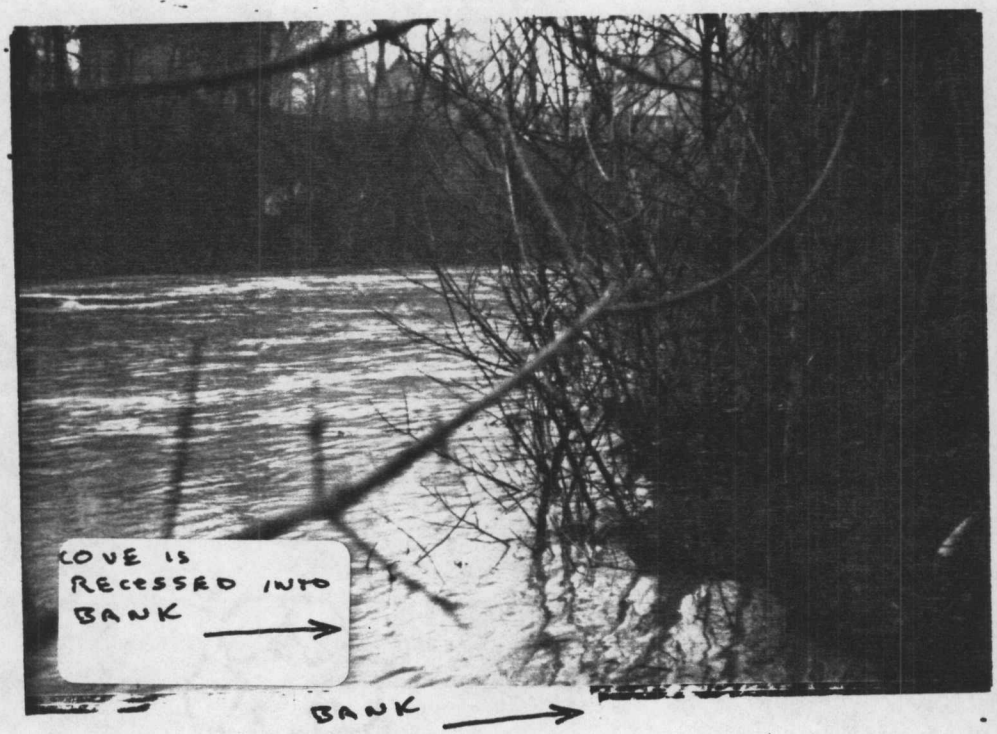
WEATHER Cool, Wet, Drizzle, Overcast.

SITE Chem. Recovery Sys.

TDD# R05-8512-06

PHOTOGRAPHED BY: Dave Vaughn

SAMPLE ID# (if applicable) NA



DESCRIPTION: Looking upstream from cove area where asbestos was suspected of existing. Cove area not shown but is to the Right of Picture.

DATE 2-5-86

TIME 4:35 A.M. (P.M.)

DIRECTION: N NNE NE ENE
E ESE SE SSE
S SSW (SW) WSW
W WNW NW NNW

WEATHER Cool, Wet Drizzle, Overcast

SITE Chem. Recovery Sys.

TDD# R05-8512-06

PHOTOGRAPHED BY: Dave Vaughn

SAMPLE ID# (if applicable) NA

DESCRIPTION: Looking Downstream from Cove area on River's edge. Steep sloped walls along River shown in background

E 2-5-86

ME 4:25 A.M. (P.M.)

RECTION: N NNE NE ENE
E ESE SE SSE
(S) SSW SW WSW
W WNW NW NNW

EATHER Cool, Wet, Drizzle, Overcast.

ITE Chem. Recovery Syst.

DD# R05-8517-06

HOTOGRAPHED BY:
Dave Vaughn.

SAMPLE ID# (if applicable)
NA

DESCRIPTION: Looking downstream along bank of River. Note the heavy vegetation and limited walking room to collect samples.

DATE 2-5-86

TIME 4:25 A.M. (P.M.)

DIRECTION: N NNE NE ENE
E ESE SE SSE
S SSW SW WSW
W WNW NW (NNW)

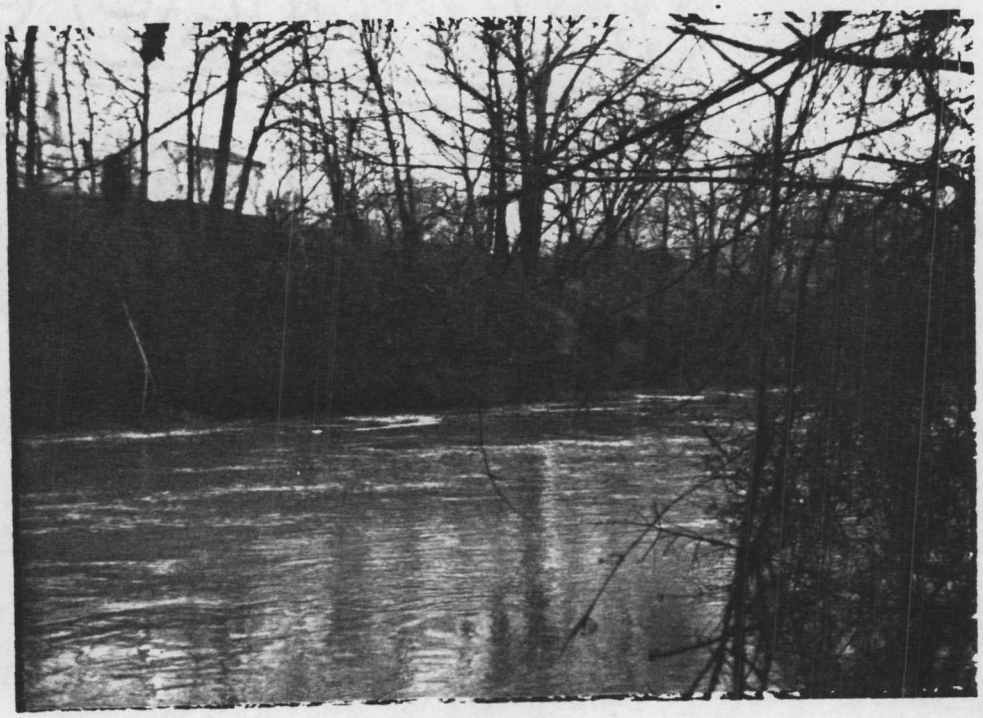
WEATHER Cool, Wet, Drizzle Overcast.

SITE Chem. Recovery Syst.

TDD# R05-8517-06

PHOTOGRAPHED BY:
Dave Vaughn.

SAMPLE ID# (if applicable)
NA



DESCRIPTION: Looking upstream from cone area indicating River height and slopes along N. end of site on West side of River.